

# Work Order ID 63656

November 9, 2010 8:00:53 AM



Page 1

Item ID: D6102-001

Accept



Setup Start



Revision ID:

Item Name: Saddle Billet

Stop



Start Date: 11/09/10 Start Qty: 6.00



Cust Item ID:

Required Date: 11/23/10 Req'd Qty: 6.00



Customer:

Reference:

Approvals: Process Plan: CZ Date: 10/11/09 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6102	Rev D

100 0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 12888 ☐ a) Description: Aluminum billet ☐ b) 7.880" x 6.250" x 2.000" thick ☐ c) Tolerance on all dimensions are +0.006"/-0.000" ☐ d) Grain direction along 7.880" length ☐ e) Material: 6061-T6/T651 (QQ-A-250/11) or (QQ-A-200/8) ☐ Material certi

CZ 10/11/09 (6)

110 0.00



Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

10/11/10 (5)

120 0.00



QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

Check certification to Dwg D6102 for compliance

10/11/24

6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 63656**

November 9, 2010 8:00:53 AM



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Item ID: D6102-001

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle Billet

Start Date: 11/09/10 Start Qty: 6.00



Cust Item ID:

Required Date: 11/23/10 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

Identify as per dwg & Stock Location: MAT

0.00

OK 10/11/24

Packaging

Memo

0.00

6 0 \_\_\_\_\_

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

10/11/24 JD

Quality Control

ME  
10-11-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November 9, 2010 8:00:52 AM

Page 1

Work Order ID: 63656



Parent Item: D6102-001



Parent Item Name: Saddle Billet


Start Date: 11/09/10

Required Date: 11/23/10

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP A 01.05.04 New Issue EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-001P  6061-T6 6.25x7.88x2		Purchased	No			110	Each	0.0000	1	6		11/10/10	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

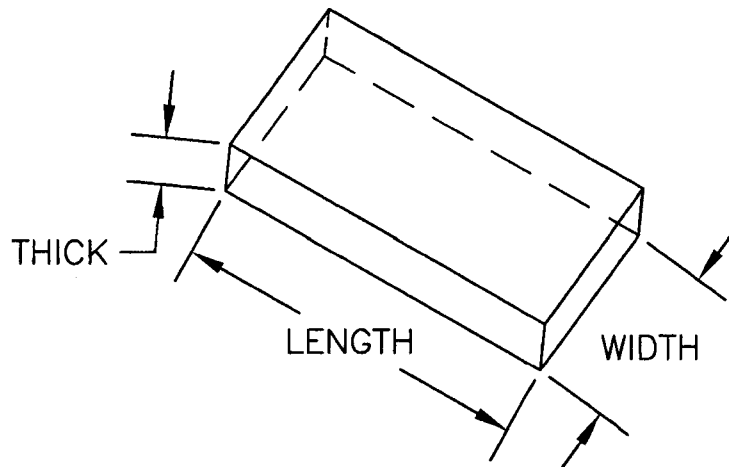
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

## SPECIFICATION CONTROL DRAWING

**RELEASED**

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

021011109  
W10: 63656

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

021011124

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO12888**

Purchase Order Date 11/09/10

PO Print Date 11/09/10

Page Number 1 of 1

**Order From :**

VC-MET001

METAUX CASTLE  
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100  
TORONTO, ON M4Y 3A5  
CA

**Contact Name**

**Vendor Phone** 514 694 9575

**Vendor Fax** 514 695 3281

**Vendor Account Nbr**

**Buyer**

Chantal Lavoie

**Requisition Nbr**

**Tax Resale Nbr**

10127-2607

**Terms**

Net 30

**Currency**

CAD

**FOB**

Destination-Collect

**Ship To :**

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAKED**  
CL 12/11/10

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6102-001P	6061-T6 6.25x7.88x2	11/23/10 Yes	6.00 Each	Yours ppd	\$39.7500	\$238.50

**Special Inst:**

ALLUMINUM BILLET MATERIAL:  
6061-T6/T651 AS PER QQ-A-250/11 OR  
QQ-A-200/8  
SIZE: 7.880" X 6.250" X 2.000" THICK  
GRAIN DIRECTION ALONG 7.880"  
LENGTH  
TOLERANCE ON ALL DIMENSION ARE  
+0.006"/-0.000"  
B63656

**PO Total:**

**\$238.50**

**MATERIAL CERTIFICATION  
REQ'D UPON DELIVERY**

Change Nbr: 1

Change Date: 11/09/10

CL

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable



**Castle Metals®**

A. M. Castle &amp; Co.

**PACKING SLIP**

Page 1 of 1

Shipment No:576315

<b>Ship From:</b> Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 18-NOV-10	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid		<b>Carrier</b> LOCAL_FLEET		<b>BOL No</b> 576315-2	

<b>Shipment Details</b>	<b>Final Destination Branch - MON</b>
-------------------------	---------------------------------------

<b>Order No</b> 1105791	<b>Line No</b> 1	<b>Item No</b> 8641.MO	<b>Description</b> 2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6.25 IN ( + .0310/- .0000 IN (GRAIN TO RUN ALONG 7.88")) X 7.88 IN ( + .0310/- .0000 IN (GRAIN TO RUN ALONG 7.88")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/11				
<b>Purchase Order No</b> 12888		<b>Part Number</b> YOUR ITEM NUMBER: D6102-001		<b>Ordered Qty</b> 6 PCS		<b>Invoice Qty</b> 6 PCS	
<b>Details</b>							
<b>Delivery No.</b> 56688348	<b>Mill</b>	<b>Heat Number</b> 508959A4	<b>Mech Id</b>	<b>PCS</b> 6	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty (LBS)</b> 59.19

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

*awf 10/11/24*

SHIP TO: A M CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131
SOLD TO: AM CASTLE & CO- SOLD TO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

2/3

Serial Number

4198975

LCS

Item # 81041

CUSTOMER PO NUMBER: 56328	WORK PACKAGE:	CUSTOMER PART NUMBER: 8641 AMC A96061-161	SHIP RUN/LOAD: 101835/17	GOVT CONTRACT NUMBER:		
KAISER ORDER NO: 1099347	LINE ITEM: 1	SHIP DATE: 9-JUL-2010	ALLOY: 6061	CLAD: BARE	TEMPER: T651	PRODUCT DESCRIPTION: KaiserSelect® Precision Plate
WEIGHT SHIPPED: 11150 LB	QUANTITY: 8 PCS EST.	B/L NUMBER: 2028075	GAUGE: 2.0000 IN	DIAMETER/WIDTH: 48.500 IN	LENGTH: 144.500 IN	

### Certified Specifications

AMS 4027/RevN  
CMMP 025/RevS

ASME SB 209/Rev2004

ASTM B 209/Rev07

Test Code: 1511

### Test Results

Peado

Lot: 508904A0 Cast 785 Drop 09 Ingot 2

Controlled by CASTLE METALS - Mtl.  
to P & WC - MCL Manual Section FC-17

(ASTM E8/B557)  
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	48.3 : 48.6 (333 : 335)	43.1 : 43.7 (297 : 301)	14.2 : 14.6

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.68	0.5	0.28	0.07	1.1	0.19	0.11	0.02	0.01	0.00	TOT 0.04

Lot: 508969A4 Cast 785 Drop 08 Ingot 2

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.5 : 49.6 (341 : 341)	44.3 : 44.7 (305 : 308)	14.6 : 14.7

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.70	0.6	0.30	0.09	1.0	0.20	0.14	0.02	0.01	0.00	TOT 0.04

10/11/24

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4198975

3/3 LCS-  
Ham# 8041

### ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061 MIN	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder.

### TEST NOTES

6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS  
4027 also meets applicable requirements of AMS-QQ-A-250/11  
Rev.A.

### Castle Metals FP

HEAT NUMBER 508959A4  
MECHANICAL ID \_\_\_\_\_  
ITEM CODE 8641  
LOT NUMBER \_\_\_\_\_  
PO NUMBER 56328  
RECEIPT DATE 7-15-2010  
SUPPLIER KAISER  
SPECIFICATION \_\_\_\_\_  
LCS AL  
COMMENT \_\_\_\_\_  
APPROVED DL

*Bill*  
10/11/24

### CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

*Bill Poy*